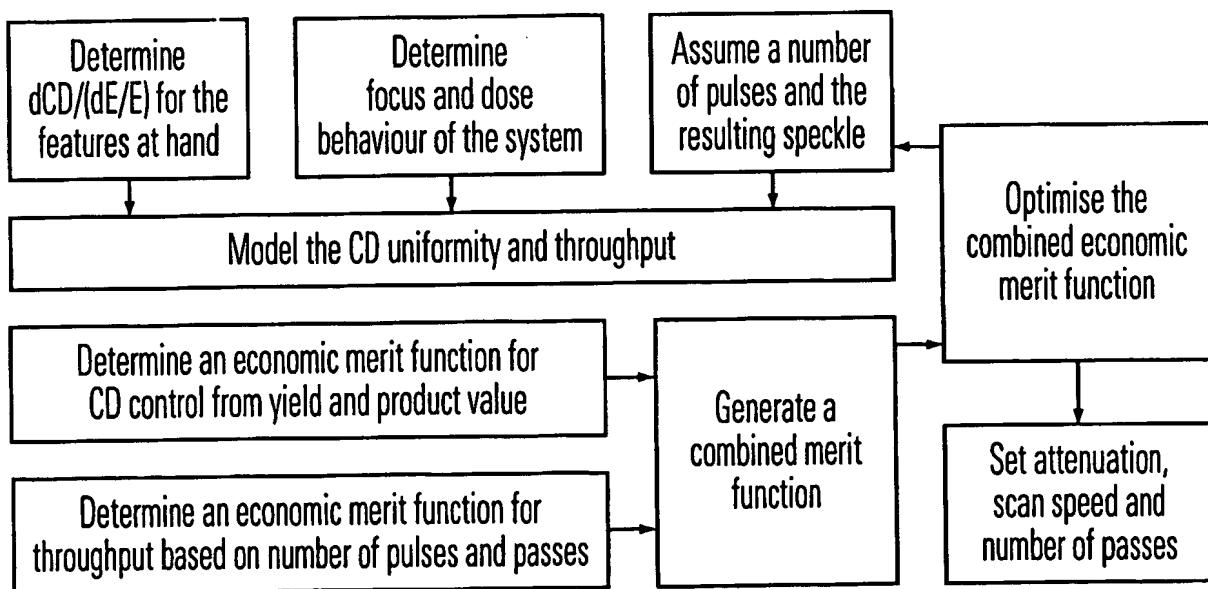


Illumination field with speckle seen through a mask with:

- a. transistor gate structures
- b. contact holes
(conceptual image)

FIG. 1



Procedure for optimizing the economics for a particular layer.

FIG. 2

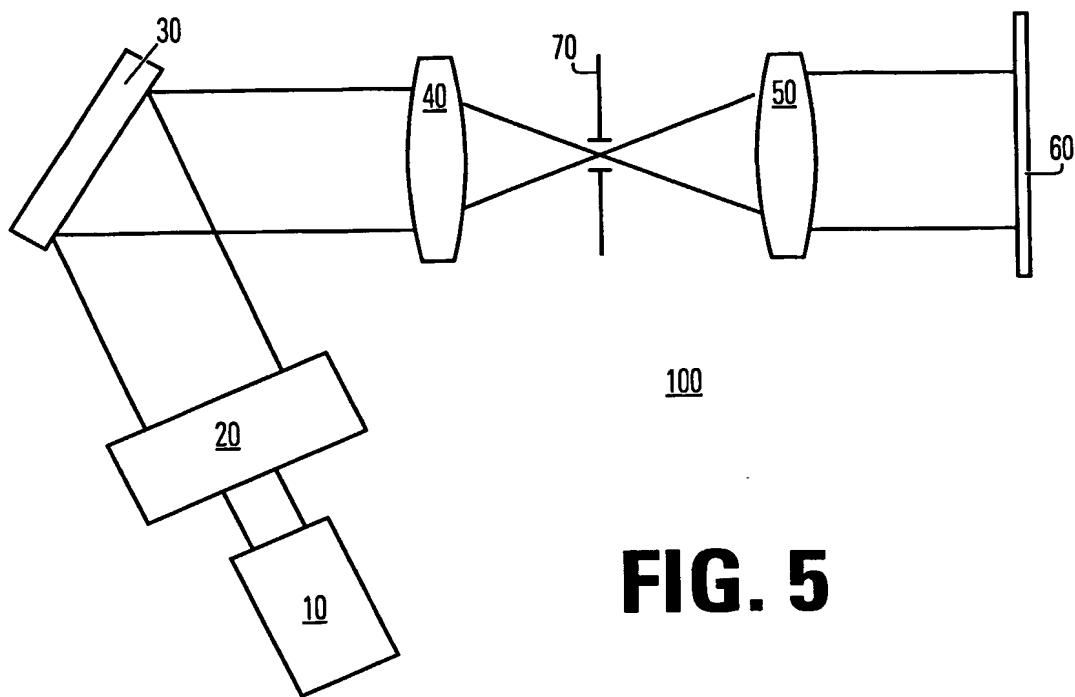
2/4

Wavelength Bandwidth	nm pm	248 0.2	248 0.4	248 0.8	248 1.6	193 0.2	193 0.4	193 0.8	193 1.6	157 0.2	157 0.4	157 0.8	157 1.6
No of pulses	Pulse length ns	Illumination variation (3 sigma)											
	20	8.8%	6.2%	4.4%	3.1%	6.8%	4.8%	3.4%	2.4%	5.6%	3.9%	2.8%	2.0%
	20	7.2%	5.1%	3.6%	2.5%	5.6%	3.9%	2.8%	2.0%	4.5%	3.2%	2.3%	1.6%
	20	6.2%	4.4%	3.1%	2.2%	4.8%	3.4%	2.4%	1.7%	3.9%	2.8%	2.0%	1.4%
	20	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
	20	3.9%	2.8%	2.0%	1.4%	3.1%	2.2%	1.5%	1.1%	2.5%	1.8%	1.2%	0.9%
	20	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
	30	7.2%	5.1%	3.6%	2.5%	5.6%	3.9%	2.8%	2.0%	4.5%	3.2%	2.3%	1.6%
	30	5.8%	4.1%	2.9%	2.1%	4.5%	3.2%	2.3%	1.6%	3.7%	2.6%	1.9%	1.3%
	30	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
	30	4.1%	2.9%	2.1%	1.5%	3.2%	2.3%	1.6%	1.1%	2.6%	1.9%	1.3%	0.9%
	30	3.2%	2.3%	1.6%	1.1%	2.5%	1.8%	1.2%	0.9%	2.0%	1.4%	1.0%	0.7%
	30	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
	40	6.2%	4.4%	3.1%	2.2%	4.8%	3.4%	2.4%	1.7%	3.9%	2.8%	2.0%	1.4%
	40	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
	40	4.4%	3.1%	2.2%	1.6%	3.4%	2.4%	1.7%	1.2%	2.8%	2.0%	1.4%	1.0%
	40	3.6%	2.5%	1.8%	1.3%	2.8%	2.0%	1.4%	1.0%	2.3%	1.6%	1.1%	0.8%
	40	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
	40	2.0%	1.4%	1.0%	0.7%	1.5%	1.1%	0.8%	0.5%	1.2%	0.9%	0.6%	0.4%
	60	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
	60	4.1%	2.9%	2.1%	1.5%	3.2%	2.3%	1.6%	1.1%	2.6%	1.9%	1.3%	0.9%
	60	3.6%	2.5%	1.8%	1.3%	2.8%	2.0%	1.4%	1.0%	2.3%	1.6%	1.1%	0.8%
	60	2.9%	2.1%	1.5%	1.0%	2.3%	1.6%	1.1%	0.8%	1.9%	1.3%	0.9%	0.7%
	60	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
	60	1.6%	1.1%	0.8%	0.6%	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.4%
	100	3.9%	2.8%	2.0%	1.4%	3.1%	2.2%	1.5%	1.1%	2.5%	1.8%	1.2%	0.9%
	100	3.2%	2.3%	1.6%	1.1%	2.5%	1.8%	1.2%	0.9%	2.0%	1.4%	1.0%	0.7%
	100	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
	100	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
	100	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%	1.1%	0.8%	0.6%	0.4%
	100	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.3%	0.8%	0.6%	0.4%	0.3%
	200	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
	200	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
	200	2.0%	1.4%	1.0%	0.7%	1.5%	1.1%	0.8%	0.5%	1.2%	0.9%	0.6%	0.4%
	200	1.6%	1.1%	0.8%	0.6%	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.3%
	200	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.3%	0.8%	0.6%	0.4%	0.3%
	200	0.9%	0.6%	0.4%	0.3%	0.7%	0.5%	0.3%	0.2%	0.6%	0.4%	0.3%	0.2%

FIG. 3

Wavelength nm	248	248	248	248	193	193	193	193	157	157	157	157
Pulse length ns	10	20	30	40	10	20	30	40	10	20	30	40
Polarised Bandwidth ns	Illumination variation (3 sigma)											
Yes 1	24.8%	17.5%	14.3%	12.4%	19.3%	13.6%	11.1%	9.7%	15.7%	11.1%	9.1%	7.9%
Yes 10	7.8%	5.5%	4.5%	3.9%	6.1%	4.3%	3.5%	3.1%	5.0%	3.5%	2.9%	2.5%
Yes 14	6.6%	4.7%	3.8%	3.3%	5.2%	3.6%	3.0%	2.6%	4.2%	3.0%	2.4%	2.1%
Yes 20	5.5%	3.9%	3.2%	2.8%	4.3%	3.1%	2.5%	2.2%	3.5%	2.5%	2.0%	1.8%
Yes 30	4.5%	3.2%	2.6%	2.3%	3.5%	2.5%	2.0%	1.8%	2.9%	2.0%	1.7%	1.4%
Yes 40	3.9%	2.8%	2.3%	2.0%	3.1%	2.2%	1.8%	1.5%	2.5%	1.8%	1.4%	1.2%
Yes 50	3.5%	2.5%	2.0%	1.8%	2.7%	1.9%	1.6%	1.4%	2.2%	1.6%	1.3%	1.1%
Yes 100	2.5%	1.8%	1.4%	1.2%	1.9%	1.4%	1.1%	1.0%	1.6%	1.1%	0.9%	0.8%
No 1	24.8%	17.5%	14.3%	12.4%	19.3%	13.6%	11.1%	9.7%	15.7%	11.1%	9.1%	7.9%
No 10	7.8%	5.5%	4.5%	3.9%	6.1%	4.3%	3.5%	3.1%	5.0%	3.5%	2.9%	2.5%
No 14	6.6%	4.7%	3.8%	3.3%	5.2%	3.6%	3.0%	2.6%	4.2%	3.0%	2.4%	2.1%
No 20	5.5%	3.9%	3.2%	2.8%	4.3%	3.1%	2.5%	2.2%	3.5%	2.5%	2.0%	1.8%
No 30	4.5%	3.2%	2.6%	2.3%	3.5%	2.5%	2.0%	1.8%	2.9%	2.0%	1.7%	1.4%
No 40	3.9%	2.8%	2.3%	2.0%	3.1%	2.2%	1.8%	1.5%	2.5%	1.8%	1.4%	1.2%
No 50	3.5%	2.5%	2.0%	1.8%	2.7%	1.9%	1.6%	1.4%	2.2%	1.6%	1.3%	1.1%
No 100	2.5%	1.8%	1.4%	1.2%	1.9%	1.4%	1.1%	1.0%	1.6%	1.1%	0.9%	0.8%

FIG. 4

**FIG. 5**